

SURFACE MOUNT PACKAGE FOR LINEAR ARRAY SENSORS

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ABSTRACT OF THE DISCLOSURE

5 In linear arrays of charge coupled device photosensors,
sensor integrated circuits are contained in surface mountable
packaging allowing individual segments to be soldered into
place within the array. For solder-mountable packaging,
unencapsulated sensor circuits are mounted onto a lead frame
10 strip with the space between the circuits equaling the width
of a singulation saw. After die mounting and wire bonding, a
continuous strip of plastic or resin molding covers the wire
bonds on one side and the edge of the silicon on the other,
protecting the lead frame strip and other parts, leaving the
active sensor area exposed. The lead frame is then trimmed
and formed in a conventional manner, and the packaged sensor
circuits are separated with a singulation saw cutting between
the circuits. The resulting self-contained device may then be
surface mounted within a linear array with solder rather than
20 depending on Chip On Board technology. Leads are preferably
soldered to the board on only one side, with the other side
floating freely over the appropriate contacts for ease of
mechanical adjustment. Individual sensor segments within the
array may be readily removed and replaced in the event of a
25 defect.